DOCUMENT RESUME

ED 466 932 CE 083 518

AUTHOR	Smith, Andrew; Freeland, Brett
TITLE	Industry Training: Causes and Consequences.
INSTITUTION	National Centre for Vocational Education Research, Leabrook (Australia).
ISBN	ISBN-1-74096-057-2
PUB DATE	2002-05-00
NOTE	19p.
AVAILABLE FROM	National Centre for Vocational Education Research, 252 Kensington Road, Leabrook, South Australia 5068, Australia (Cat. no. 793; Web only). Tel: 08 8333 8400; Fax: 08 8331 9211; e-mail: vet_req@ncver.edu.au; Web site: http://www.ncver.edu.au. For full text: http://www.ncver.edu.au/research/core/cp9902.pdf.
PUB TYPE	Information Analyses (070)
EDRS PRICE	EDRS Price MF01 Plus Postage. PC Not Available from EDRS
DESCRIPTORS	Adult Education; Banking; Construction Industry; Developed Nations; Employment Potential; Employment Practices; Financial Services; Foreign Countries; Futures (of Society); *Industrial Training; *Inplant Programs; *Job Skills; *Labor Force Development; Labor Market; Needs Assessment; *Organizational Change; Quality Control; Retailing; Retraining; Teamwork; *Technological Advancement; Total Quality Management; Vocational Education; Work Environment
IDENTIFIERS	*Australia

ABSTRACT

Research on Australian organizations in five industry sectors--building and construction, food processing, electronics manufacturing, retailing, and finance and banking--has identified these three key drivers of enterprise training: workplace change, quality assurance, and new technology. Operation of the training drivers is moderated by a range of factors internal to the enterprise of training moderators, including enterprise size, industry traditions of training, occupational structure, industrial relations, management attitudes, and government training policy. Forthcoming research has also investigated the type of training provided when there are these five forms of workplace change: teamworking, total quality management, lean production, learning organization, and business process re-engineering. An Australian Industry Group study points to these number of key factors associated with provision of industry training in Australian enterprises: workplace change, generic skills, training and business strategy, and new training structures. Skills and training requirements for Australian enterprises are changing. There is an increasing demand for higher levels of skills; the source of these skills will be adult re-skilling; and changes in the labor market are emphasizing the emergence of non-standard forms of employment, such as casualized and outsourced workers. (Contains 23 references.) (YLB)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 466 932

NCVER

Industry training

Causes and consequences

PERMISSION TO REPRODUCE AND
DISSEMINATE THIS MATERIAL IN
MICROFICHE ONLY HAS BEEN GRANTED BY

S. HAYMAN

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

2B

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Andrew Smith

Brett Freeland

CE 081 518

BEST COPY AVAILABLE

© 2002 National Centre for Vocational Education Research

Apart from any use permitted under the Copyright Act 1968, no part of this publication may be reported by any process without the written permission of NCVER Ltd. Requests should be made in writing to NCVER Ltd.

ISBN 1 74096 057 2 web edition

TD/TNC 70.01

Published by

National Centre for Vocational Education Research
ABN 87 007 967 311

252 Kensington Road, Leabrook SA 5068

PO Box 115, Kensington Park SA 5068, Australia

www.ncver.edu.au

Industry training: Causes and consequences

Andrew Smith and Brett Freeland

There is a strong and persistent belief in Australian training policy circles that Australia is a poor performer by international standards in the provision of training. This view is particularly strongly held in relation to enterprise training where it is commonly assumed that Australian employers chronically under invest in the training of their employees and show little inclination to increase their training effort in response to government initiatives (Smith 1998:10). Much of this belief is based on the results of successive surveys of employer training expenditure in Australia and some notoriously unreliable International comparative data. Since 1989 the Australian Bureau of Statistics (ABS) has conducted four surveys of employer training expenditure (ABS 1990a, 1991, 1994a, 1997). The original survey conducted as a pilot in 1989 indicated that only 22% of Australian employers carried out any form of training for their employees and that an average of 2.2% of payroll costs was invested in training activities with employees receiving, on average, 22 hours of training per annum.

This data together with the results from some international comparisons of incentive schemes to promote higher levels of enterprise investment in training provided a significant part of the case for the then federal Labor government enacting the Training Guarantee Act in 1990. This scheme operated from 1990 to 1996 (although it was technically suspended in 1994) and required Australian enterprises with payroll costs of over A$200 000 to spend at least 1.5% of their payroll on the provision of 'structured' training for their employees or pay an equivalent levy to the Australian Taxation Office. Assessments of the effectiveness of the Training Guarantee in raising the level of training expenditure in Australia vary but it generally accepted that the scheme failed to lift training provision for the majority of employees in any significant or lasting fashion (Teicher 1995). Subsequent iterations of the Employer Training Expenditure survey (TES) have tended to confirm the original rather gloomy assessment of the state of enterprise training in Australia. Table 1 shows that although training expenditure appeared to increase to 1993, it has since retreated.

Table 1. Employer Training Expenditure (July–September 1989–96)

	1989	1990	1993	1996
% employers reporting training expenditure	22	24	25	18
% payroll spent				
Private sector	1.7	2.2	2.6	2.3
Public sector	3.3	3.2	3.4	3.2
Total	2.2	2.6	2.9	2.5
Average expenditure per employee (A$)	133	163	191	186
Average training hours per employee	5.5	5.9	5.6	4.9

Source: Australian Bureau of Statistics (1990a, 1991, 1994a, 1997).

Employer size is a major cause of variation in the incidence of training in enterprises. In 1996, 88.3% of large enterprises (100 or more employees) provided structured training compared to only 13.4% of small enterprises (less than 20 employees). Spending on training also varies considerably by sector and industry. In 1996, public sector organisations spent 3.2% of payroll compared with their private sector counterparts who spent 2.3%. However, the increase from 1989 is almost entirely accounted for by the private sector which improved its performance by over 30%, whilst public sector spending as a percentage of payroll remained fairly static. Variation across industry sectors is even more apparent, with air transport, mining and communications spending well over the average whilst manufacturing, retail and recreation and personal services spent considerably less than the average.

The decline in training expenditure since 1993 has led the Australian National Training Authority (ANTA) to focus on increasing industry investment in training as one of its five strategic priorities in the period 1998–2003 (Australian National Training Authority 1998).

However, it is far from clear that this pessimistic view of the state of industry training in Australia is justified from an examination of the range of data now available on the incidence of enterprise training. The ABS conduct two other surveys which present data on industry training—the Employer Training Practices Survey (ABS 1994b, 1997) and the Survey of Education and Training Experience (ABS 1990b, 1994c, 1998). The Survey of Education and Training Experience (SET) and its forerunners is a household survey sampling some 20 000 dwelling and collecting data in all individual aged from 15 to 64 years for the previous year. The results from the 1997 SET show that in 1997, 80.2% of workers received some form of training. On-the-job training was the most common form of training with 71.6% of workers receiving this type of training. The incidence of in-house training in organisations was far less with only 33% of workers receiving this form of training. About 16% of workers were studying for an educational qualification. However, like the figures on training expenditure, there is considerable variation between industries on the type of training received by employees. Employees in the utilities, communications or service industries were more likely to receive training than those in transport, manufacturing or agriculture. The results of the three surveys for employee training are summarised in table 2.

Table 2. Individuals' experience of training 1989–97

Activity	1989	1993	1997
Some training undertaken	79.0	85.8	80.2
Studied in previous calendar year	16.8	18.6	15.8
In-house training course	34.9	31.3	33.0
External training course	9.8	11.8	20.0
On-the-job training	71.8	81.8	71.6

Source: ABS (1998)

The data from SET display some interesting contrasts with the TES data. The most obvious difference is that the experience of training for individual workers is far higher than the TES data might lead one to expect. Over the 1990s, 80% or more of workers have undertaken some training. Although the most common experience is of on-the-job training, over 30% of workers have received in-house training—very similar to the 'structured' training definition used in the TES. Also the pattern of provision has changed during the period 1989–97 in different ways to the pattern of training expenditure from the TES. Whereas the overall incidence of training and of on-the-job training rose in the early 1990s and fell away later in the decade, in-house or structured training increased since 1993 and participation in external training courses almost doubled during the period. This latter figure complements the data for overall enrolments in the Australian vocational and education training system which show that the numbers undertaking a VET course have increased by almost 60% in the last 10 years to over 1.5million in 1998 to the point where 12% of the Australian population undertook a VET course in 1998 (NCVER 1999).

The increasing incidence of in-house training contrasts sharply with the TES data showing a decline in expenditure on structured training over the same period. Despite the differences in definitions between in-house training in the SET and structured training in the TES, the SET data suggest that the provision of off-the-job training courses on the employers' premises has increased since 1993.

More evidence of the widespread provision of industry training can be gained from the Employer Training Practices Survey (TPS). The TPS is a qualitative survey that gathers information on the type and extent of training provide by enterprises to their employees. Data is collected for a full year rather than for three months as is the case for the TES. Two Training Practices surveys have been carried out (ABS 1994b, 1997) covering the years 1993 and 1996. The survey is administered to the same population as the TES so the data is comparable between the two surveys. The results from the 1997 TPS show that 61% of all employers provided training to their employees during 1996. 35% provided structured training whilst 53% provided unstructured training. 27% provided both forms of training. As with training expenditure, the incidence of enterprise training in the TPS varies considerably with size. In 1996, 99% of large enterprises provided training whilst 57% of small employers provided training for their employees. The provision of structured training follows the same pattern with 93% of large enterprises providing structured training and

30% of small enterprises. The TPS data also hows that the low incidence of training provision amongst small enterprises is concentrated in the micro-business end of the spectrum—those enterprises employing fewer than five people. The figures for small business are summarised in table 3.

Table 3. Small business training provision 1996

Type of training	1–4 employees	5–9 employees	10–19 employees	All small business
Structured training	20	43	60	30
Unstructured training	38	65	78	49
All training	45	74	86	57

Source: ABS (1997)

Despite the similarity in the pattern of training provision, however, there is a remarkable difference in the incidence of training provided by the TES and the TPS. In almost every case, the incidence of structured training detected by the TPS appear to be about double that detected by the TES. 35% of enterprises report providing structured training to their employees in the TES compared to only 17.7% of enterprises in the TES. 30% of all enterprises provided structured training in the TPS compared to 13.4% in the TES. For larger enterprises, the figures are more comparable. nevertheless, 99% of enterprises provided structured training in the TPS compared with 88.3% in the TES.

There are some differences between the two surveys which might account for some of these divergent findings. In particular, the TES provides data for only one quarter in the year whereas the TPS gathers data on training activity for the preceding 12 months. The TPS collects a broader range of data than the TES with the emphasis on qualitative data rather than the strictly defined quantitative data of the TES. Thus the TPS may allow the collection of data on training activities that cannot be fitted into the strict definitional guidelines of the TES. Further evidence of the more all embracing approach of the TPS is provided by the slightly different definitions of structured training used in the two surveys. In both surveys the definition of structured training allows the inclusion of on-the-job training. However, in the TES on-the-job training is restricted to training 'associated with the assessment of accredited competency-based skills'. This definition severely limits the amount of on-the-job training captured under the definition of structured training in the TES and may help to account for the lower incidence of structured training reported. Thus, the TPS appears to be a better guide to the true level of structured training provided within enterprises.

Further support for a more optimistic view of the incidence of industry training in Australia is provided by the Business Longitudinal Survey (ABS 1999). The Business Longitudinal Survey (BLS) is a composite of data gathered from a sample of business on the ABS business register. The BLS gathers data primary on business and financial performance of enterprises but also includes some simple questions on the provision of training to employees. In 1997/98, the BLS data indicated that 54% of enterprises provided training to their

BEST COPY AVAILABLE

employees and 23% provided structured training. Whilst these figures fall between the data provided by the TES and TPS, it is important to note that the BLS collects data from enterprises with less than 200 employees. Thus, large enterprises are under represented in the sample. This would suggest that a higher rather than a lower estimate of industry training is warranted by the ABS data overall. Estimates of the number of employees receiving training from their employers in the period of the survey suggest that 68% received on-the-job training whilst 46% received structured training. These figures are broadly in line with those of the SET for on-the-job training. The numbers receiving structured training are higher than the number receiving in-house training in the SET, however the definition of structured training in the BLS is broader than that of in-house training courses in the SET.

Thus, the data from the TPS, SET and BLS surveys paint a consistently more optimistic picture of the state of industry training in Australia than the TES. Broadly it appears that:

- Some 80% of Australians are receiving some form of training at work
- About 70% of Australians take part in on-the-job training at work
- Between a third and a half of all Australians are taking part in formal, structured training in the workplace
- About 60% of all Australian enterprises deliver some form of training to their employees but over 85% of enterprises employing more than 10 people provide training
- Between a quarter and a third of all Australian enterprises provide structured training to their employees but 60% of enterprises employing more than 10 people provide structured training.

Why do enterprises train their employees?

In Australia, Smith and his colleagues have investigated the determinants of enterprise training (Smith & Hayton 1999). Over a two-year period from 1994–96, a research team from Charles Sturt University and the University of Technology Sydney studied 42 organisations in depth and carried out a survey of 1750 studies of Australian private sector organisations. Organisations in five industry sectors were studied:

- Building and construction
- Food processing
- Electronics manufacturing
- Retailing
- Finance and banking

The research team developed a model of how training operates at the organisational level. The model is illustrated in figure 1. The research identified three key drivers of enterprise training.

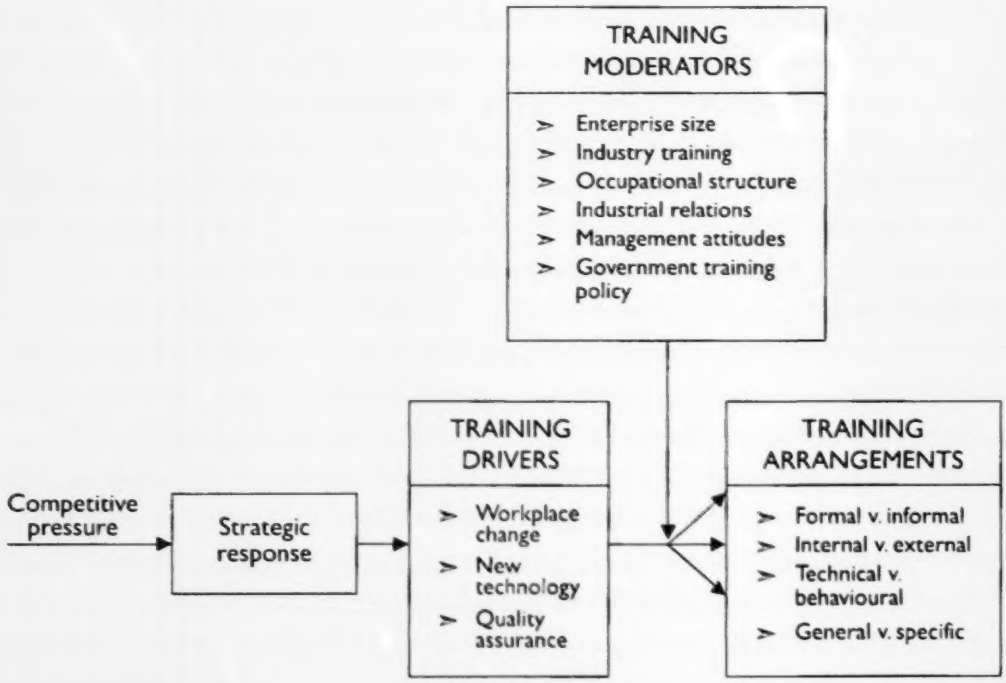
Workplace change. The extent and pace of workplace change varied between enterprises and

between industries. This includes the introduction of teamwork, new management practices and new forms of work organisation.

Quality assurance. A particular form of workplace change that emerged as a consistently significant driver of enterprise training was quality improvement. However, the interpretation of quality improvement differed significantly across industries and between enterprises ranging from quality accreditation to the use of TQM.

New technology. This included new product and process technology, although the extent of technological innovation was greater in the manufacturing and finance sectors than in construction or retail. New product technologies often involved on-the-job training for employees who would be producing the new product. Training for new process technology was more extensive.

Figure 1. Model of enterprise training



Source: Smith (1998)

The operation of the training drivers was moderated by a range of factors internal to the enterprise—training moderators. The model of enterprise training identified six training moderators:

BEST COPY AVAILABLE

- enterprise size
- industry traditions of training
- occupational structure
- industrial relations
- management attitudes
- government training policy

The outcomes of the processes of interaction between drivers and moderators are the training arrangements that are finally put in place. The diversity of the arrangements in terms of the dimensions of training activity—formal versus informal, external versus internal, technical versus behavioural, generic versus specific—as well as the overall levels of expenditure on training and the distribution of that training between occupational groups in the workforce, is the product of the unique interactions between training drivers and training moderators that take place within each enterprise.

These findings are confirmed by the results of the TPS which asked enterprises to rank the factors which caused them to train their employees and the factors that caused an increase in training expenditure. For enterprises providing structured training in 1996, the five most important reasons for provision training were:

1. improving performance in the current job (38%)
2. improve quality of goods/services (37%)
3. respond to new technology (22%)
4. develop a more flexible workforce (16%)
5. improve employee safety in the workplace (15%)

For enterprises reporting an increase in their provision of structured training in the last 12 months, the five major factors driving the increase were:

1. technological change (32%)
2. changes in management practices (25%)
3. quality assurance/quality control (21%)
4. regulations or awards (18%)
5. availability of external training providers (16%)

Improving quality and responding to new technology appear in both lists. Changes in management practices and the need to develop a more flexible workforce can be seen as aspects of the introduction of workplace change as can the need to improve quality and are important drivers of training. These reasons for providing training relate very closely to the model described above.

Following the work on the drivers of enterprise training, Smith and his colleagues examined the impact of workplace change on the type and extent of training provided by enterprises (Smith et al. forthcoming). This research involved a survey of 3500 businesses investigating the links between different forms of workplace change and the type of training provided to employees. Five forms of workplace change were investigated.

Teamworking. The research examined both the extent of teamworking adopted in enterprises and the degree of autonomy given to teams. 63% of responding enterprises reported that they used teamworking. However, the results also showed that the level of autonomy granted to teams was generally in the low–medium category. The incidence of high team autonomy was relatively uncommon. Thus, whilst teamworking appears to an extensively adopted form of workplace change, most teams enjoy only a limited degree of autonomy. The adoption of teamworking resulted in a greater decentralisation of the training function, a higher level of workplace delivery of training and a more even distribution of training. Higher levels of team autonomy were associated with a greater use of external training provision and a greater formalisation of training.

Total quality management. 43.7% of responding enterprises reported high level of commitment to some form of TQM. This was also associated with a greater level of decentralisation of training responsibility and a focus on generic skills. TQM was also associated with a greater use of internal training resources and provision of nationally accredited training.

Lean production. 44.5% of responding enterprises reported a high commitment to lean production techniques. This was associated with a reduction in training due to cost cutting measures, a more informal approach to training and less likelihood a training specialists existing in the enterprise.

Learning organisation. 40.2% of respondents reported a high level of commitment to the principles of the learning organisation. This was associated a greater level of decentralisation of training, greater attention to the training of managers, a focus on generic skills in training and a greater use of coaching and mentoring.

Business process re-engineering. 28.3% of responding enterprises reported a high level of commitment to business process re-engineering. This resulted in a greater use of accredited training, a higher degree of workplace delivery of training and a more even distribution of training amongst different groups of employees.

This research appears to confirm the importance of workplace change in stimulating industry training but it is clear that the form of change adopted can have a significant impact on the type of training that occurs and who receives it. Other results to come from this research included:

- The relationship of training to business strategy. A key finding from the study was the importance of the link between training and business strategy as a driver of enterprise training. This link was positively correlated with almost all of the measures of training

used in the study and appeared to be the single most important factor in boosting the incidence of industry training.

- The growing importance of generic or 'soft' skills training. Enterprises appeared to less concerned with training in the job-related technical skills but more with training in skills such as problem-solving, working with others and communication. These generic or transferable skills produce a degree of workforce flexibility and adaptability which is congruent with the importance of workplace change as a driver of industry training.
- The importance of the individual. Enterprises in the research were moving away from the 'blanket' provision of training at the enterprise level and increasingly towards the notion that the individual employee must take responsibility for his/her own training. The role of the enterprise is to act as a broker in the relationship between individuals and a variety of training providers.
- Changing nature of training. All of the forms of workplace change adopted appeared to be reinforcing a flight away from the traditional training structures seen in Australian enterprises—training departments with training specialists and instructors. In many cases formal training departments had been abolished, responsibility for training had been devolved to line managers and training was delivered by a new breed of workplace instructors—employees whose primary responsibility was not training but had taken on a training role in addition to their other duties.

Many of these findings have been echoed in other recent studies of industry training in Australia. Analysis of the BLS (ABS 1999) shows that across a range of measures the incidence of industry training is far higher in business that have adopted a formal strategic or business plan than in those that have no business plan. 86% of enterprises with a business plan provided on-the-job training compared to 58% of enterprises without a plan. 67% of enterprises with a business plan provided structured training compared to only 34% of businesses without a plan. Of all the measures contained in the BLS data the existence of a formal business or strategic plan is the one most strongly associated with a higher incidence of industry training.

A recent study commissioned by the Australian Industry Group (AiG) examined the future skills and training needs of Australian manufacturing industry (Allen Consulting Group 1998).

Table 4. Company training objectives in the Australian industry group

Reasons for training	% enterprises agreeing	% enterprises disagreeing
Improve our quality	93.7	1.3
Improve our competitiveness	88.2	3.0
Multi-skill our employees	87.0	4.1
Meet health and safety requirements	77.4	4.4
Implement workplace change	68.8	7.7
Build commitment to the company	67.1	8.1

Source: Allen Consulting Group (1998)

BEST COPY AVAILABLE

The study covered a representative sample of the 11 500 enterprises who are members of the AiG. The study involved a survey of a sample of member enterprises, as well as interviews in over 50 enterprises and a number of focus groups with enterprise members. The AiG study examined the reasons that their members trained their employees. The findings are presented in table 4.

These reasons for training bear remarkable resemblance to the reasons for training adduced by the TPS. Although the implementation of workplace change ranks fifth in the AiG list of reasons for training, issues of quality improvement and the multiskilling of employees attest to the overwhelming importance of workplace change in the factors that this group of Australian enterprises view as driving their training efforts.

The study also confirmed the importance of the link between training and business strategy in the plans of the enterprises in the survey. 61% of the surveyed enterprises expected that the skills and capabilities within their businesses would make them attractive to investors whilst 71% saw a strong link between their decisions to train and their 'competitive edge'. The AiG enterprises also emphasised the importance of training for generic skills citing basic skills such as literacy and numeracy, information technology capability, relationship skills such as problem solving and communication and a willingness to learn as the 'core' skills which they demand in new and existing employees.

The research points to a number of key factors that are associated with the provision of industry training in Australian enterprises.

- Workplace change. Workplace change is a key factor in enterprises' decisions to change. The form of change varies but an emphasis on quality improvement and flexibility comes through most of the recent Australian research in this area. The introduction of new technology is also important but in conjunction with the development of new sets of skills, including multiskilling to make enterprises more competitive.
- Generic skills. The evidence suggests strongly that enterprises have moved away from an emphasis on training for job-related technical skills and more towards skills that will introduce greater degrees of adaptability and flexibility in the workforces of Australian enterprises. Thus, the traditional human capital explanations for the provision of only enterprise 'specific' training by employers seems to be breaking down quickly as enterprises are increasingly concerned with the provision of highly general and transferable skills, regardless of the dangers of poaching on external labour market.
- Training and business strategy. All recent studies of industry training bear out the importance of the close connection between training and business strategy. There appears to be a growing realisation amongst enterprises that training and skills have an important part to pay in their future competitiveness. The importance of this link appears to be borne out empirically by research evidence which shows a strong association between increases in industry training and strong links to business strategy.

- New training structures. At the same time as enterprises are taking a more strategic approach to their training, the organisation of training within enterprises is changing reflecting the management fashion for decentralisation and the vesting of higher levels of responsibility in both line managers and in individual workers. Thus, specialist training departments are giving way to structures based on workplace instructors with an increasing emphasis on enterprises brokering training opportunities for individuals who take responsibility for meeting their own training needs.

What are Australian industry's future training needs?

It has been commonplace in recent years to refer to the upskilling effect of globalisation on developed economies. The argument is made that globalisation is driven by the impact of new communications technologies which allow enterprises to compete in higher value added, niche markets (Marginson 2000). It has been argued by Reich and others that globalisation is leading to shifts in the skills profiles of occupations in developed countries away from the production worker and towards the more highly skilled 'symbolic analyst'. In Australia, Maglen and Shah (1998) have traced the rise of the symbolic analyst in the labour market and argued that the skills requirements for jobs in the Australian labour market are increasing. There is some evidence from Australian enterprises that now supports this view. The AiG study and recent work by the Department of Education, Training and Youth Affairs (DETYA 2000) have shown that the traditional skills requirements of Australian industry are changing.

As discussed above, the AiG study (Allen Consulting Group 1999) showed that in the manufacturing sector, Australian enterprises were increasingly looking for a range of generic or 'core' skills that would underpin their future business plans. The enterprises in the AiG survey also report that their skills requirements were moving towards a higher overall level. Their recruitment intentions showed a preference for recruitment at the professional/para-professional and trades levels above the production level of employee. 30% of respondents replied hat they anticipated recruiting at the professional/para-professional level compared with 25% who intended to recruit at the production level. This was reflected in the expectations of employees skills levels and training intentions amongst enterprises in the survey over the next five years. These are summarised in table 5.

The AiG argue that, in the manufacturing sector, Australian enterprises are displaying a marked preference for higher levels of skills in both recruitment and in their training, reflecting an underlying upward movement in the skill levels associated with the future business plans of the enterprises:

> *Most jobs in Australian Industry Group companies are expected to move up the skill ladder, reflecting the more sophisticated nature of production and service and the greater level of knowledge embodied in the work taking place among these companies.*
>
> (Allen Consulting Group 1999, p.37)

Table 5. Australian manufacturing enterprises skills and training intentions in next 3–5 years

Skill level	% requiring more skills	% expecting to train heavily at this level
Professional/para-professional	79.6	53.2
Trades/post-trades	76.5	52.2
Production	*72.0*	*59.8*

Source: Allen Consulting Group (1999)

However, the source of these higher level skills in the future is in some doubt. The AiG study shows that recruitment of apprentices and trainees, the traditional means by which Australian enterprises have sought to meet their future skill requirements, is not likely to grow. This view has been supported by work carried out for the national review of skills shortages in the trades occupations co-ordinated by the federal Department of Education, Training and Youth Affairs (DETYA 2000). This work has shown that across the traditional trades areas of electro-technology, mechanical and fabrication engineering and automotive repair the numbers of apprentices and trainees recruited by Australian enterprises has been declining since the early 1990s. In most of these trades areas, the decline has been arrested in the last two years with some trades, notably electrotechnology showing strong growth in the numbers of apprentices recruited. However, Australian enterprises in these trades report significant skills shortages which are unlikely to be alleviated in the short-medium term through apprentice recruitment, with its long lead times to completion, or through the migration program, a traditional source of skills for Australian industry. The reports from the three working parties established to examine each of the trades occupational areas all emphasise the importance of re-skilling existing workers to meet the growing skills deficit. This has significant implications for the growth of employer sponsored industry training.

The importance of the re-training of existing workers has also been highlighted by work carried out the National Centre for Vocational Education Research (NCVER) on the training needs of older workers (Smith 1999). The NCVER work showed that the Australian population is rapidly ageing in line with international demographic trends. The median age of the Australian population currently at 34 years will increase to about 45 years by 2051. By this time over 25% of the population will be aged over 65 years compared to 10% in 1997. A key contributor to the greying of the population is the increasing health of older people. Advances in medical technology have led to a steady increase in the life expectancy for people, particularly in the developed world. For non-indigenous Australians, life expectancy at birth in 1996 was 81 years for females and 75 years for males. These rates are confidently expected to grow in coming years.

At the same time, the ageing of the population is being accompanied by a significant demographic 'bust', with the lower birth rates of recent years contributing to a steep decline in the proportion of young people in the population aged 19–24 years. The combination of more people living longer and a lower proportion of young people in the population will

REST COPY AVAILABLE

have a significant impact on the age structure of the Australian workforce. As employers compete for a decreasing number of younger workers, they will be compelled to reconsider the role of older workers. Thus, the future skill needs of Australian industry will be increasingly met through training existing, older workers already in the workforce rather than through the recruitment of younger people for training.

However, these rather optimistic views about the upward trajectory of Australian skill levels in the wake of globalisation and occupational change are tempered by work analysing the impact of labour market changes on the skills and training needs of Australian workers. The most important trends in the nature of work in Australian in recent years have been the growth in the numbers of casualised workers and the increasing incidence of outsourcing in Australian enterprises.

Using data from the Australian Bureau of Statistics and the Australian Workplace Industrial Relations Survey (Morehead et al. 1997), VandenHeuvel and Wooden (1999) have shown that the proportion of casual workers has grown from 15.8% of the workforce in 1984 to almost 27% in 1998. The definition of 'casual' workers is somewhat fraught with a number of studies showing that casual workers may enjoy what amounts to permanent employment with a single employer. The ABS has defined casual workers as workers who do not enjoy employment benefits such as paid leave and sick leave and whose degree of attachment to the enterprise is thus lower than a permanent employee. This definition seems to capture the variety of employment arrangements found amongst casual workers whilst emphasising the precarious nature of their jobs. VandenHeuvel and Wooden examined the experience of training for both casual and permanent employees. They gathered data on the incidence of in-house training, external training undertaken with employer support (employer pays for training) and external training unsupported by the employer (employee pays for the training). The results for 1997 are summarised in table 6.

Table 6. Percentage of permanent and casual employees receiving training 1997

Type of employee	% receiving in-house training	% receiving external training (employer supported)	% receiving external training (unsupported)
Permanent	40.5	15.3	9.0
Casual	16.7	3.4	13.2

Source: VandenHeuvel & Wooden (1999: 25)

The data shows clearly that casual employees are significantly disadvantaged in terms of employer sponsored training whether it is provided in-house or externally. This is not a surprising finding as employers may view casual employees as more likely to leave the enterprise as a result of their employment arrangements and therefore less worthy of investment. However, casual workers appear to undertake a significant amount of external training on their own account. This finding shows that although casual workers may not

receive training from their employers to the same degree as their permanent colleagues, they are nevertheless investing in their own training and development. This supports the notion, discussed earlier, that workers are becoming more responsible for their own training and development and that training is becoming a more individualised process within Australian enterprises.

The degree of outsourcing in the Australian economy is more difficult to estimate. VandenHeuvel and Wooden estimate that between 4% and 10% of the workforce may be employed as contractors to other organisations. However, they caution that this figure may well understate the extent of outsourcing as many self-employed workers would not categorise themselves as contractors and employees of labour hire firms may view themselves as permanently employed although they are involved in the contracting business. A survey of labour hire firms conducted by KPMG Management Consulting in Australia (KPMG 1998) showed that the major reason for the use of outsourcing was meet peak periods of demand for the enterprise. In many cases this involved the use of highly skilled labour (for maintenance tasks and so on), so it cannot be concluded that outsourcing involves only the use of low skilled workers. However, the incidence of training within labour hire firms appeared to be quite low. Only 14% of labour hire forms in the survey responded that they employed an apprentice or trainee. The expectation appeared to be that employees were recruited for their existing skills and were expected to maintain those skills at their own expense and in their own time. Thus, the growth of outsourcing would seem to be associated with a decrease in the incidence of industry training as enterprises no longer carry the responsibility for the training of outsourced workers and labour hire firms place little importance in training their own staff.

This assumption, however, may be challenged by the data from VandenHeuvel and Wooden (1999) who show that outsourcing seems to be associated with an increase in the incidence of in-house training for employees and in the level of training expenditure. The data for these observations comes from the Australian Workplace Industry Relations Survey (AWIRS) and VandenHeuvel and Wooden caution that the measures of training used in the survey are crude with a large potential error. However, the AWIRS data seems to suggest that out-sourcing, whilst it may lead to a decrease in training for those employees whose functions are outsourced, does not appear to lead to a decrease in training for those who remain.

In summary, it appears that the skills and training requirements for Australian enterprises are changing.

- There appears to be an increasing demand in Australian industry for higher levels of skills and a recognition that industry will have to increase its training effort in order to secure these skills. Higher level skills are already in short supply in many traditional skilled occupations.
- The source of these skills in the future will have to be the re-training of existing workers rather than the recruitment of people with the skills ready made. This shift towards adult re-skilling is also being driven by demographic projections which show that the

Australian workforce is ageing and that employers will increasingly rely on their older workers as sources of new skills in the future.

- Changes in the Australian labour market are emphasising the emergence of non-standard forms of employment—casualised and outsourced workers. Although both of these trends are associated with a lower incidence of employer supported training, it is clear that both casual and outsourced workers depend on their skills for their employment and are increasingly undertaking training at their own expense to maintain and increase their skills. This goes hand in hand with the individualisation of industry training and a changing role for the enterprise as *broker* rather than *provider* of training.

Conclusion

Despite this apparent decrease in expenditure levels on industry training in recent years, there is considerable evidence to show that Australia is developing a culture of training and learning in its enterprises. 80% of Australian workers receive some form of training in their workplace, over one third of workers receive structured training from their employer and over 60% of enterprises provide structured training for their employees. These are high levels of industry training by world standards. This training effort is being driven by changes in the workplace and changes in the nature of work. Change is endemic in Australian workplaces as it is in most countries in the developed world. It is the effort to capitalise on changes to the organisation of work and to new technologies in the workplace that are driving Australian enterprises to invest in more and better training for their employees.

But employers are not demanding the same skills as they did in the past. The evidence shows that it is generic and transferable skills such as problem solving and teamwork that are in demand together with higher levels of technical competence. These skills are no longer 'specific' to the enterprise but are necessary to both the employer and the employee in modern labour market. As a result, the traditional arrangements for industry training are giving way to new ones. Instead of enterprises providing highly specific job related training through blanket training programs devised for all employees, enterprises are decentralising the training role and providing more of a brokerage service to employees who take an increasing level of individual responsibility for their own training and development. It is, perhaps, this latter development that is the most critical for the future of industry training in Australia. Whilst an increasing number of casual and outsource workers are forced to invest in their own training to maintain their place in the labour market, individual responsibility for skills development is also passing to permanent employees in Australian enterprises.

It is meeting the fragmented demand created by this individualised training market that is the future challenge for Australia's training system.

References

Allen Consulting Group 1999, *Training to compete: The training needs of industry*, Australian Industry Group, Sydney.

Australian Bureau of Statistics (ABS) 1990a, *Employer training expenditure Australia, July to September 1989*, AGPS, Canberra.

—— 1990b, *How workers get their training Australia, 1989*, AGPS, Canberra.

—— 1990c, *Projections of the population of Australia, States and Territories, 1989–2031*, AGPS, Canberra.

—— 1991, *Employer training expenditure Australia, July to September 1990*, AGPS, Canberra.

—— 1994a, *Employer training expenditure Australia, July to September 1993*, AGPS, Canberra.

—— 1994b, *Training and education experience Australia, 1993*, AGPS, Canberra.

—— 1994c, *Employer training practices, Australia 1994*, AGPS, Canberra.

—— 1997, *Employer training expenditure Australia, July to September 1996*, AGPS, Canberra.

—— 1998, *Employer training practices, Australia 1997*, AGPS, Canberra.

—— 1999, *Business longitudinal survey: Confidentialised Unit Record File*, AGPS, Canberra.

Australian National Training Authority 1998, *A bridge to the future: The national strategy for vocational education and training*, Brisbane.

KPMG 1998, *Impact of the growth of labour hire companies on the apprenticeship system*, ANTA, Brisbane.

Maglen, L & Shah, C 1999, *Emerging occupational patterns in Australia in the era of globalisation and rapid technological change: Implications for education and training*, Monash University—ACER Centre for the Economics of Education and Training, Melbourne.

Marginson, S 2000, *The changing nature and organisation of work, and the implications for vocational education and training in Australia: Issues paper*, NCVER, Adelaide.

Morehead, A, Steele, M, Alexander, M, Stephen, K & Duffin, L 1997, *Changes at work: The 1995 Australian workplace industrial relations survey (AWIRS 95)*, Longman, Melbourne.

National Centre for Vocational Education Research (NCVER) 1999, *Statistics1999: An overview*, NCVER, Adelaide,

Smith, A 1998, T*raining and development in Australia (2nd edn)*, Butterworths, Sydney.

—— (ed.) 1999, C*reating a future: training, learning and the older person*, NCVER, Adelaide.

Smith, A & Hayton, G 1999, 'What drives enterprise training? Evidence from Australia,' *International Journal of Human Resource Management* 10: 2. 251–272.

Smith, A, Noble, C, Oczkowski, E & Macklin, R (forthcoming), 'New management practices and enterprise training in Australia', *International Journal of Manpower*.

Teicher, J 1995, 'The training guarantee: A good idea gone wrong,' in F Ferrier & C Selby-Smith (eds), *The Economics of Education and Training 1995*, AGPS, Canberra.

VandenHeuvel, A & Wooden, M 1999, *Casualisation and outsourcing: trends and implications for work-related training*, NCVER, Adelaide.

'EST COPY AVAILABLE

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

Reproduction Basis

X	This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.
	This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").